FARM FACTS

Dryland Forage Production Costs

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Introduction

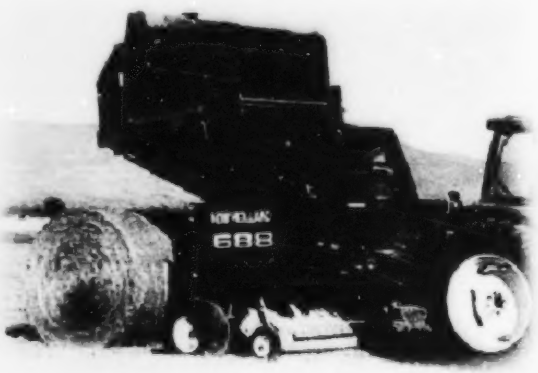
This publication provides a format for calculating the cost of producing a forage crop. The cost of producing alfalfa-brome grass hay and crested wheat grass-alfalfa hay is shown on a soil zone basis as an example. A similar machinery complement is used for each soil zone. Machine size and work rates are based on 200 acres of hay. For individual farms these rates will vary based on the type of equipment used and the number of acres sown to forage. Individual farm figures should be used where possible. The Farm Machinery Custom and Rental Rate Guide publication can be used to provide estimates of machinery costs where actual farm figures are not available.

The costs are broken down into **Cash Costs** (crop inputs (seed, fertilizer) fuel, lubrication and repairs) and **Non Cash Costs** (machine depreciation, investment cost, insurance and housing). The publication Farm Machinery Custom and Rental Rate Guide 1998 is used as the basis of the machine costs. Fertilizer and seed costs are based an 2000 prices.

The fertilizer and seeding rates are the recommended general rates for the soil zone. On individual farms, these rates would vary according to specific areas and circumstances.

The hay rotation is based on one year to establish the hay and eight years of hay production. The stand is broken after the eighth hay crop is harvested. The breaking is assumed to be done with two tandem disc operations and this cost is charged against the hay enterprise. Grain crops grown after the hay stand are assumed to bear the cost of any additional fallowing operations. Therefore, on average, one-eight of the acres are used in establishing the hay and seven- eights of the acres are used for hay production.

The figures in this publication are a guide to the cost of producing alfalfa-brome grass hay. While these estimates are based on average conditions, producers should carefully review these estimates and adjust them to reflect their circumstances. This publication also has some basic information on seed costs (winter of 2000) and the recommended seeding rates for various forage crops. This information can be used in calculating the costs of production for various forage crops.



For more detailed information on the production requirements and general recommendation for forage production obtain a copy of the Saskatchewan Agriculture and Food publication Saskatchewan Forage Crop Production Guide 2000 from your Rural Service Center.

Brown Soil Zone:

Cost Per Ton of Alfalfa-Brome Grass Hay (based on 200 acres)
Hay Production: 1.4 tons/acre or (52 sq. bales/acre, 2.25 round bales)

Cash Costs:	Dollars Per Acre	Dollars Per Rotation Acre	Your Estimate Per Acre	Your Estimate/ Rotation Acre
Seeding				
20' press drill & Tractor	2.40		____	
Alfalfa seed (2 pounds/acre)	5.20		____	
Crested Wheatgrass seed (3 lbs./ac)	6.00		____	
Fertilizer 15 lbs P./ac x $.27/lb.	4.05		____	
Total cost	**$17.65**		____	
Cost/rotation acre = $17.65 x 1/8		**$2.21**		____
Annual Cost For Established Forage				
1 - mower conditioner	3.16		____	
1 - baler (small bales $.13/bale)	6.81		____	
1 - 104 PTO bale wagon ($.13/bale)	6.85		____	
1 - 40' fertilizer spreader	0.52		____	
Twine ($.05/bale)	2.60		____	
Fertilizer 50 lbs./acre x $.22/lb	11.00		____	
Total cost	**$30.94**		____	
Cost/rotation acre = $30.94 x 7/8		**$27.07**		____
Breaking				
2 - 20' Tandem Disc Custom Hired	$15.00		____	
Total cost	**$15.00**		____	
Cost /rotation acre = $15.00 x 1/8		**$1.88**		____
Cash Cost/Rotation Acre		$31.16		____
Operating Interest (8% x $31.16/2)		$1.25		____
Total Cash Cost/Rotation Acre		**$32.40**		____
Non-Cash Costs:				
Land Costs				
Interest on Investment = $310/ac x 4.5%		$13.95		____
Taxes		$3.92		____
Depreciation and Interest on Equipment		$17.73		____
Overhead		$3.14		____
Total Non-Cash Costs		**$38.74**		____
Total Cash and Non-Cash Costs/Acre		$71.14		____
Total Cash and Non-Cash Costs/Ton of Alfalfa-Crested Wheat Grass Hay		$50.81		____

Dark Brown Soil Zone:

Cost /Ton of Alfalfa-Brome Grass Hay (based on 200 acres)
Hay Production: 1.8 tons/acre or (65 sq. bales/acre, 2.9 round bales)

Cash Costs:	Dollars Per Acre	Dollars Per Rotation Acre	Your Estimate Per Acre	Your Estimate/ Rotation Acre
Seeding				
20' press drill & Tractor	2.40		____	
Alfalfa seed (4 pounds/acre)	10.40		____	
Smooth Bromegrass seed (5 lbs./ac.)	13.50		____	
Fertilizer 20 lbs.P./ac x $.27/lb.	5.40		____	
Total cost	**$31.70**		____	
Cost/rotation acre = $28.50 x 1/8		**$3.96**		____
Annual Cost For Established Forage				
1 - mower conditioner	3.16		____	
1 - baler (small bales $.13/bale)	8.51		____	
1 - 104 PTO bale wagon ($.13/bale)	8.57		____	
1 - 40' fertilizer spreader	0.52		____	
Twine ($.04/bale)	2.60		____	
Fertilizer 50 lbs./acre x $.30/lb	11.00		____	
Total cost	**$34.36**		____	
Cost/rotation acre = $31.28 x 7/8		**$30.06**		____
Breaking				
2 - 20' Tandem Disc Custom Hired	$15.00		____	
Total cost	**$15.00**		____	
Cost /rotation acre = $15.00 x 1/8		**$1.75**		____
Cash Cost/Rotation Acre		$35.78		____
Operating Interest (8% x $35.78/2)		$1.43		____
Total Cash Cost/Rotation Acre		**$37.21**		____
Non-Cash Costs:				
Land Costs				
Interest on Investment = $341/ac x 4.5%		$15.35		____
Taxes		$4.45		____
Depreciation and Interest on Equipment		$17.73		____
Overhead		$3.14		____
Total Non-Cash Costs		**$40.66**		____
Total Cash and Non-Cash Costs/Acre		$77.87		____
Total Cash and Non-Cash Costs/Ton/ of Alfalfa-Brome Grass Hay		$43.26		____

Black Soil Zone:

Cost Per Tonne of Alfalfa-Brome Grass Hay (based on 200 acres)
Hay Production: 2.2 tons/acre or (80 sq. bales/acre, 3.5 round bales)

Cash Costs:	Dollars Per Acre	Dollars Per Rotation Acre	Your Estimate Per Acre	Your Estimate/ Rotation Acre
Seeding				
20' press drill & Tractor	2.40		____	
Alfalfa seed (5 pounds/acre)	13.00		____	
Smooth Bromegrass seed (4 lbs./ac.)	10.80		____	
Fertilizer 20 lbs. P./ac x $.27/lb.	5.40		____	
Total cost	**$31.60**		____	____
Cost/rotation acre = $30.32 x 1/8		**$3.95**		
Annual Cost For Established Forage				
1 - mower conditioner	3.16		____	
1 - baler (small bales $.13/bale)	10.48		____	
1 - 104 PTO bale wagon ($.13/bale)	10.54		____	
1 - 40' fertilizer spreader	0.52		____	
Twine ($.04/bale)	4.00		____	
Fertilizer 50 lbs./acre x $.22/lb	$11.00		____	
Total cost	**$39.70**		____	
Cost/rotation acre = $67.75 x 7/8		**$34.74**		____
Breaking				
2 - 20' Tandem Disc Custom Hired	$15.00		____	
Total cost	**$15.00**		____	
Cost /rotation acre = $15.00 x 1/8		**$1.88**		____
Cash Cost/Rotation Acre		$40.56		____
Operating Interest (8% x $40.56/2)		$1.62		____
Total Cash Cost/Rotation Acre		**$42.18**		____
Non-Cash Costs:				
Land Costs				
Interest on Investment = $385/ac x 4.5%		$17.33		____
Taxos		$4.97		____
Depreciation and Interest on Equipment		$17.73		____
Overhead		$2.85		____
Total Non-Cash Costs		**$42.88**		____
Total Cash and Non-Cash Costs/Acre		$85.06		____
Total Cash and Non-Cash Costs/Ton of Alfalfa-Brome Grass Hay		$38.66		____

Appendix I

Assumptions:

1. Crop Rotation

Total Acres	Acres of Hay	Acres of Hay Being Established
200	175	25

2. Land Investment Costs: Interest on land Investment calculated at 4.50%

3. Machine Operations:

Haying	14' mower conditioner - 1 operation
	Large round baler - 1 operation
	Large bale mover (12-14 bales) - 2 operations
Grass Seeding	40' fertilizer spreader - 1 operation
	20' press drill - 1 operation
Breaking	20' tandem disc - 2 operations - custom hired at $7.50/acre

4. Seeding Rates:

		Pounds per Acre
Brown Soil Zone	Crested Wheat Grass & Alfalfa	3 + 2
	Intermediate Wheat Grass & Alfalfa	4 + 2
	Alfalfa	4
Dark Brown Soil Zone	Brome Grass & Alfalfa	5 + 4
	Crested Wheat Grass & Alfalfa	5 + 2
	Intermediate Wheat Grass & Alfalfa	8 + 2
	Alfalfa	8
Black Soil Zone	Brome Grass & Alfalfa	4 + 5
	Crested Wheat Grass & Alfalfa	6 + 3
	Intermediate Wheat Grass & Alfalfa	11+ 3
	Alfalfa	8

		$/lb
5. Price of Seed	Alfalfa (includes inoculant)	$2.60
	Smooth Brome Grass	$2.70
	Crested Wheat Grass	$2.00
	intermediate Wheat Grass	$3.30

6. Fertlizer Use:

	Brown and Dark Brown	Black
grass-legume mixtures		
Nitrogen	30-70 lbs/ac	30-90 lbs/ac
Phosphate	0-20 lbs/ac	0-40 lbs/ac

Fertilizer costs:	Nitrogen	$0.22 per lb. (actual)
	Phosphate	$0.27 per lb. (actual)

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